roots, and landscape and ornamental plants wherein the surface of said substrate is coated with a membrane formed from a slurry comprising water and one or more particulate materials, the membrane comprised of one or more particulate layers, said layers comprising one or more particulate materials selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, said particulate materials being finely divided, and wherein said membrane allows for the exchange of gases on the surface of said substrate.

6. (Twice amended) The coated substrate of claim [5] 1 wherein said [hydrophilic core] particulate materials further comprise at least one [are] selected from the group consisting of [calcium carbonate,] mica, [kaolin, bentonite,] attapulgite, pyrophyllite, wollastonite, silica, feldspar, sand, quartz, chalk, limestone, diatomaceous earth, baryte, ceramic, glass and organic microspheres, aluminum trihydrate, ceramic fibers, glass fibers, colorants and titanium dioxide.

13. (Twice amended) A method for pest control on horticultural substrates selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, and landscape and ornamental plants which comprises applying a slurry comprising water and one or more particulate materials, selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, to the surface of said substrate to form a membrane comprised of one or more particulate layers, said layers comprising one or more particulate materials, said particulate materials being finely divided, and wherein said membrane allows for the exchange of gases on the surface of said substrate.

18. (Amended) The method of claim [17] 13 wherein said [hydrophilic core] particulate materials further comprise at least one [are] selected from the group consisting of [calcium carbonate,] mica, [kaolin, bentonite,] attapulgite, pyrophyllite, wollastonite, silica, feldspar, sand, quartz, chalk, limestone,

diatomaceous earth, baryte, ceramic, glass and organic microspheres, aluminum trihydrate, ceramic fibers, glass fibers, colorants and titanium dioxide.

25. (Twice amended) A method for enhancing the horticultural effect of horticultural substrates selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, and landscape and ornamental plants which comprises applying a slurry comprising water and one or more particulate materials, selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, to the surface of said substrate to form a membrane comprised of one or more particulate layers, said layers comprising one or more particulate materials, said particulate materials being finely divided, and wherein said membrane allows for the exchange of gases on the surface of said substrate.

30. (Amended) The method of claim [29] 25 wherein said [hydrophilic core] particulate materials further comprise at least one [are] selected from the group consisting of [calcium carbonate,] mica, [kaolin, bentonite,] attapulgite, pyrophyllite, wollastonite, silica, feldspar, sand, quartz, chalk, limestone, diatomaceous earth, baryte, ceramic, glass and organic microspheres, aluminum trihydrate, ceramic fibers, glass fibers, colorants and titanium dioxide.

37. (Amended) A coated substrate comprising a horticultural substrate selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, and landscape and ornamental plants wherein the surface of said substrate is coated with a membrane comprised of one or more particulate layers, said layers comprising one or more particulate materials selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, said particulate materials being finely divided, and wherein said membrane contains gaps that do not exceed about 5 μm and the membrane allows for the exchange of gases on the surface of said substrate.

38. (Amended) A method for disease control on horticultural substrates selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, and landscape and ornamental plants which comprises applying a slurry comprising water and one or more particulate materials to the surface of said substrate to form a membrane comprised of one or more particulate layers, said layers comprising one or more particulate materials selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, said particulate materials being finely divided, and wherein said membrane allows for the exchange of gases on the surface of said substrate.